FACT SHEET

L-1036

GROWING BLACK WALNUT

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Growing black walnut for wood production offers a potential source of income for those East Texas producers who possess three basic requirements—a good walnut site, plenty of time and sufficient investment capital.

Walnut is the most valuable species of wood, a single tree in Indiana bringing $12,600 and other midwest top-dollar veneer logs bringing from $1,800 to $3,000 for a thousand board feet. Although these are select trees in the accepted "walnut belt," Texas producers have the possibilities of good economic gains by growing walnut.

SITE SELECTION

For any person seriously considering growing walnut, the proper site is an absolute necessity. What is a good site? First, the surface layer of soil must be well aerated and well drained; sandy loam or alluvial soils are good sites. Other soil requirements are the following:

1. The surface layer must be at least 18 inches thick, preferably 24 to 36 inches thick, to accommodate the tremendous root development of walnut.
2. There can be no restrictive layer such as gravel or hardpan between the surface and the underlying layer; these layers must grade into each other. Again, anything preventing root development cannot be tolerated.
3. Soil nutrients are important, but can be added to the soil at a later time.
4. A pH range of from 4.6 to 8.2 is acceptable; the optimum range is from 6.0 to 8.0.

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SITE PREPARATION

Next come the rigors of preparing the site for walnut. First, the area must be fenced. Second, all competing vegetation must be removed and control of such vegetation maintained during the early development of the walnut plantation. Third, "duck nests" should be prepared at each planting site. Duck nests are shallow depressions about 3 feet in diameter which will later serve to hold irrigation water. They should be cross spaced at a spacing of approximately 18 x 18 feet. Next, each planting site should be treated for nematodes before any planting is done. For example, this could be done wtih one of the bromine compounds.

PLANTING

The area is now ready for planting and several other items need consideration:

1. Stratified walnuts are available from the Texas Forest Service, or the nuts can be gathered from selected trees and stratified in the ground over winter. Information about this was presented by David T. Funk in "Seed Orchards," pages 62-65, North Central Forest Experiment Station, USDA, Forest Service, Carbondale, Illinois, August, 1966. In the event nuts are selected from local trees, they must be husked before they are placed in the ground. In selecting local trees, the operator should look for trees of good form retaining their leaves for a long time in the fall, thus maintaining a longer period of growth.
2. Recommendations are to plant 2 nuts in each duck nest since some nuts will not germinate and squirrels may get others.

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3. Apply from 2½ to 3 pounds of selective, pre-emergent chemical per treated acre to prevent germination of a weed seed.

CULTIVATION

After the nuts have germinated, the real problems begin. Weed control throughout the summer is necessary. In "Weed Control in Black Walnut Plantings," published by the North Central Forest Experiment Station, Carbondale, Illinois, John E. Krajicek described the following successful practice. In adaptive research plots, good weed control was obtained using a spray mixture of 7 ounces dalapon; ¼ cup 2,4-D amine; 3 ounces selective, pre-emergent chemical; 1 tablespoon detergent and 4 gallons of water. This spray was directed away from the trees and applied after the grass and broadleafed weeds had started to grow, but before the trees had fully leafed out. Other methods of weed control include mulching, disking, hoeing and mowing.

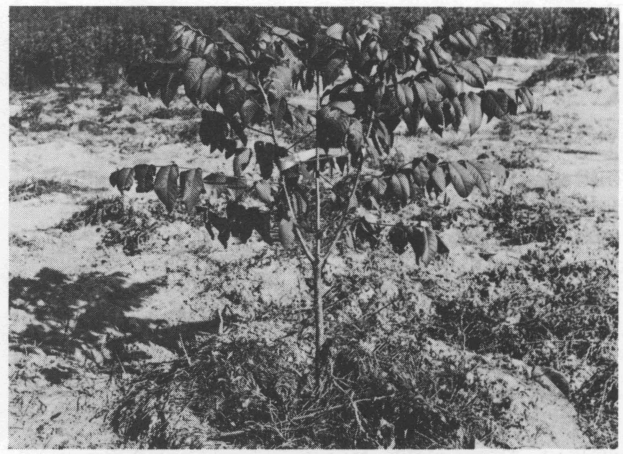
In addition, each tree must be watered every "dry" week during the summer with approximately 1 gallon of water.

Fertilizing plantations will probably be worthwhile, although early research results are inconclusive. In one series of tests, research results indicated fertilization increased growth only under moist conditions; growth was retarded under drouth conditions in sandy soil. These tests were reported by Richard E. Dickson in "The Effects of Soil Moisture, Texture and Nutrient Levels on the Growth of Black Walnut," USDA, Forest Service, Research Paper, NC-66.

During winter months, especially, erosion control between the trees must be considered. Rye grass is a natural for providing this control.

Walnut requires an intensive management program. To make such a plantation pay off, the producer should achieve 1 inch diameter growth per tree per year. For a tree to reach maximum potential, pruning the stems will be a necessary requirement since crowns of walnut trees are not dense enough to shade the trunk for natural pruning. If main stems become too crooked, they can be cut off at the base. If this is done early enough in the growing season, the resprout will be practically as tall as the original tree at the end of the growing season.

Good growth of walnut in pure stands is possible in East Texas. One tree grew from a nut to a height of 12 feet, 3 inches in two growing seasons.



Near the end of its first growing season this walnut tree emerges some four feet from a "duck nest" mulched with pine straw.

Volume-Dollar Yield Estimate*

Initial Spacing, Feet	Initial Trees Per Acre	Number Trees Cut Per Acre	Age Cut	Average DBH When Cut	Number Clear Logs Cut, Each	Volume Cut Per Acre, Bd. Ft.	Value MBM	Return Per Acre
18.4 x 18.4	130	65	12	12	1	1,885	$ 250	$ 471
26.0 x 26.0	65	33	16	16	2	3,993	1,000	3,993
36.8 x 36.8	32	32	30	30	2	20,032	1,000	20,032
						25,710 Bd. Ft.		$24,496

*Leonard A. Lankford, Jr., student, School of Forestry, Stephen F. Austin State University, "Black Walnut Plantation for the South."

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